

REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 21 has been amended. No new matter is being presented, and approval and entry of the foregoing amendment is requested.

Claims 1-3, 5, 6, 8-11, and 13-21 are pending and under consideration. Reconsideration is requested.

REJECTION UNDER 35 U.S.C. §102:1. Rejection in view of Miyauchi et al.

In the Office Action at pages 2-3, the Examiner rejects claims 1, 2, 9-11, and 14-21 under 35 U.S.C. §102(b) in view of Miyauchi et al. (Japanese Patent Publication No. 09-007224). This rejection is respectfully traversed and reconsideration is requested.

The Examiner asserts that the use of recording films 4, 6, 8 in FIG. 1 of Miyauchi et al. discloses a phase control layer and a phase change recording layer as recited in claim 1. Specifically, the Examiner asserts that, in order to record data on the third recording layer 8, the recording beam must first record data on the first and second recording layers 4, 6.

By way of review, claim 1 recites, among other features, "*the irradiation with the reproducing beam of said phase control layer within the laser spot causes a phase difference due to one of the two areas changing between a crystal and an amorphous phase that alters an optical path of the reproducing beam reflected from said phase change recording layer so as to prevent portions of the reproducing beam reflected from said phase change recording layer from passing through the one area that has converted between the crystalline and the amorphous state.*" Claim 1 further recites that "said phase change recording layer does not change phases when irradiated by the reproducing beam," and "the recording beam has a different optical power as compared to the reproducing beam."

In contrast, Miyauchi et al. discloses, during recording, each of the recording films 4, 6, 8 undergoes a phase transition so as to record information due to the irradiation by energy beams. (Abstract of Miyauchi et al.) Further, even assuming arguendo that the Examiner is correct as to the recording on recording films 4 and 6 in order to record the data on the film 8, there is no suggestion that the recording films 4 and 6 change phase when irradiated by a reproducing beam. (Table 3, Paragraph 0082 of Machine Generated Translation of Miyauchi et al.) As such, even assuming arguendo that the recording on recording films 4 and 6 is as set forth by the Examiner, there is no suggestion that the recording of data occurs using the light beam used in reproduction. As such, it is respectfully submitted that Miyauchi et al. does not disclose "a phase

change recording layer which converts between the crystal phase and the amorphous phase *by irradiation with the recording beam* and that “the irradiation with the *reproducing beam* of said phase control layer within the laser spot causes a *phase difference* due to one of the two areas changing between a crystal and an amorphous phase” as recited in claim 1.

For similar reasons, it is respectfully submitted that Miyauchi et al. does not disclose the invention recited in claims 18 and 21.

Claims 2, 9-11, 14-17, 19, and 20 are deemed patentable due at least to their depending from corresponding claims 1 and 18.

2. Rejection in view of Akahira et al.

In the Office Action at page 3, the Examiner rejects claims 1-3, 6, 9-11, and 14-21 under 35 U.S.C. §102(e) in view of Ichihara (U.S. Patent No. 6,181,650). This rejection is respectfully traversed and reconsideration is requested.

By way of review, claim 1 recites, among other features, “a phase difference due to one of the two areas changing between a crystal and an amorphous phase that alters an optical path of the reproducing beam *reflected from said phase change recording layer* so as to prevent portions of the *reproducing beam reflected from said phase change recording layer* from passing through the one area that has converted between the crystalline and the amorphous state.”

In contrast, Ichihara discloses a super resolution film 23 having a low transmissivity at ambient temperature, and a high transmissivity at a higher temperature as shown in FIG. 3. As such, during reproduction, a reproduction beam heats the super resolution film 23 to produce an aperture A as shown in FIG. 1. For the portion of the light spot Sr of the reproduction beam incident on a portion of the super resolution film 23 that has not yet been heated to the high temperature (i.e., the left side of the graph in FIG. 3), the light does not reach the recording layer 25. Once heated to the high temperature due to prolonged exposure to the reproduction beam (i.e., the right side of the graph in FIG. 3), the aperture A forms in the super resolution film 23 and those portions of the light spot Sr incident on the aperture A are able to pass through the super resolution film 23 to reproduce data with respect to the data $M_{i,j}$ recorded on the recording layer 25. In order to close the aperture A, an initialization beam can be used such that, during the next rotation, the aperture A does not remain open so as to allow lower resolution over time. (Col. 12, lines 1-37, col. 13, lines 4-36; FIGs. 1, 3, 15, 16 of Ichihara).

However, since the portions of the light spot Sr not within the aperture A are incident on a low transmittance area of the super resolution film 23, the super resolution film 23 acts to prevent the light beam from being incident on the recording layer 14, and thus does not prevent light already received at the recording layer 25 from passing back through the super resolution

film 23. As such, it is respectfully submitted that Ichihara does not disclose, among other features, "a phase difference due to one of the two areas changing between a crystal and an amorphous phase that alters an optical path of the *reproducing beam reflected from said phase change recording layer* so as to prevent portions of the *reproducing beam reflected from said phase change recording layer* from passing through the one area that has converted between the crystalline and the amorphous state" as recited in claim 1.

For similar reasons, it is respectfully submitted that Ichihara does not disclose the invention recited in claims 18 and 21.

Claims 2, 3, 6, 9-11, 14-17, 19, and 20 are deemed patentable due at least to their depending from corresponding claims 1 and 18.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action at page 4, the Examiner rejects claims 1-3, 5, 6, 9-11, and 13-21 under 35 U.S.C. §103 in view of Miyauchi et al. or Ichihara in view of Yamada et al. (U.S. Patent No. 5,255,260) and Kikukawa et al. (U.S. Patent No. 6,329,036). This rejection is respectfully traversed and reconsideration is requested.

The Examiner asserts that Yamada et al. discloses different materials usable as phase change recording media and as reflective layer materials, and Kikukawa et al. teaches a mask material, but not as otherwise curing the above noted deficiencies of Miyauchi et al. or Ichihara as applied to claims 1, 18, and 21. As such, assuming *arguendo* that the Examiner is correct as to the disclosures of Yamada et al. and Kikukawa et al., it is respectfully submitted that the combinations of Miyauchi et al. or Ichihara in view of Yamada et al. and Kikukawa et al. does not disclose or suggest the inventions recited in claims 1, 18, and 21.

Claims 2, 3, 5, 6, 9-11, 13-17, 19, and 20 are deemed patentable due at least to their depending from corresponding claims 1 and 18.

STATUS OF CLAIM NOT REJECTED:

On page 4 of the Office Action, the Examiner objects to claim 8 as depending from a rejected base claim.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further

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outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.


If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By:


James G. McEwen
Registration No. 41,983

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

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